

**ABSTRACT OF THE DISCLOSURE**

An electric power supply system is provided to recognize a type or a desired operating condition of a connected LED lighting unit automatically and to supply  
5 electric power corresponding to the type or the operating condition.

An electric power supply system for LED lighting unit comprises an LED lighting unit 1 that has an LED conducting circuit including at least an LED 2 and a resistor 4 having  
10 resistance R corresponding to a specification or a characteristics of use of the LED conducting circuit and an electric power supply unit 5 consisting of a constant current supply that can be connected with both ends of the LED conducting circuit in order to supply electric power to  
15 the LED conducting circuit and is so arranged that a type identify portion 9 consisting of a resistor measuring circuit that can be connected with both ends of the resistor and a constant current control portion 8 that supplies a control current in an arbitrary range not over the maximum  
20 allowable current of the LED conducting circuit set based on the resistance of the resistor measured by the type identify portion 9 to the LED conducting circuit.